Use of Antimicrobial Agents and Resistance in Non-Typhi *Salmonella* Infections in Infants, FoodNet 2002-2004

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Background Trimethoprim-sulfamethoxazole (TMP-SMX) and ceftriaxone are recommended for treatment of severe non-Typhi *Salmonella* infections in infants, yet little is known about the prevalence of resistance to these antimicrobial agents among infants. We describe the use and resistance to these antimicrobial agents among non-Typhi *Salmonella* isolates in infants.

Methods The Foodborne Diseases Active Surveillance Network (FoodNet) conducts active surveillance for laboratory-confirmed *Salmonella* infections. From 2002-2004, infants <1 year of age with a laboratory-confirmed non-Typhi *Salmonella* infection were enrolled in a case-control study that included questions about antimicrobial agent use. The National Antimicrobial Resistance Monitoring System for Enteric Bacteria (NARMS) tested isolates from a sample of non-Typhi *Salmonella* FoodNet cases. FoodNet and NARMS surveillance data were linked to identify a subset of cases with questionnaire data and susceptibility testing results.

Results The case-control study included 442 infants with *Salmonella* infections from 2002-2004. Of these cases, 222 (50%) were treated with an antimicrobial agent; including 41 (18%) treated with TMP-SMX and 16 (7%) treated with ceftriaxone. Additionally, 29 (7%) of the 442 cases had an isolate submitted to CDC for susceptibility testing. Of these cases, 6 (21%) were resistant to at least one antimicrobial agent; 3 (10%) *S.* Typhimurium isolates were resistant to ampicillin, chloramphenicol, streptomycin, sulfamethoxazole, and tetracycline (R-type ACSSuT), 1 (3%) *S.* Newport isolate was resistant to nalidixic acid, 1 (3%) *S.* Derby isolate was resistant to sulfamethoxazole, streptomycin, and tetracycline, and 1 (3%) *S.* Derby isolate was resistant to streptomycin. None of the isolates were resistant to TMP-SMX or ceftriaxone.

Conclusions These data suggest that TMP-SMX and ceftriaxone, the two recommended antimicrobial agents for treatment of non-Typhi *Salmonella* infection in children, are still effective treatment options. Of concern, 10% of non-Typhi *Salmonella* isolates with susceptibility results were R-type ACSSuT and 3% were resistant to nalidixic acid.